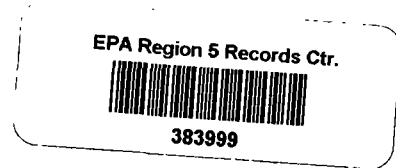




MEMORANDUM

DATE: December 27, 1989  
TO: Bill Child  
FROM: Bob Carson *BC*  
SUBJECT: 1438050006 -- Peoria County  
Mapleton/Sherex Chemical Company, Inc.  
Superfund/Technical Reports



On Thursday, December 7, 1989, having given consideration to Bob O'Hara's November 21, 1989 memo to Jim O'Brien (attached), Roger Kanerva determined that Class II groundwater standards should apply at the above-referenced site rather than the general use standards previously recommended by COT. Specifically, the standards for the contaminants of concern are 50 ppb for cadmium and 1300 ppb for copper. Groundwater monitoring analytical results during the remedial investigation and subsequent four (4) quarters of sampling have not demonstrated any excursions above the Class II groundwater standards. Given conditions at the site, Sherex has requested that the Agency give consideration to a request for a no-further-action-required determination. Roger Kanerva has indicated that that alternative is not acceptable.

The remedial technology which appears to be most applicable to this site would be a slurry wall which could be installed for about \$3-\$5 per square foot and at a total cost under \$75,000. However, the need to undertake such a project at this time has not been demonstrated and would likely be contested by Sherex and Ashland Chemical Company who are contributing to the project under a mixed funding agreement. Through consultation with Jim Janssen, recommendation is made to require long term (five (5) years) groundwater monitoring on a semi-annual basis for cadmium and copper (total and dissolved). Should monitoring demonstrate any excursions above the Class II standards, then the need to perform remedial actions at the site would be re-evaluated.

One complicating factor is the matter of cost recovery against Archer Daniels Midland, which is the third PRP for the site. ADM has not cooperated to date but is currently negotiating with the AGO and Agency attorney (Hortense Haynes) on a settlement. If ADM can cash out for past costs, then settlement can be reached soon and relatively painlessly. If ADM suspects that they may incur financial liability for undetermined future remediation costs then they are much less likely to settle. An alternative would be to require ADM to place a one third share of the estimated \$75,000 for remediation into an interest bearing escrow account for the five (5) year monitoring period and essentially cash them out.

Concurrence on this matter is requested.

ROH:ct/4363k,31

cc: Division File  
Regional File  
Bob O'Hare  
Jim Janssen  
Hortense Haynes



DATE: November 21, 1989

TO: Jim O'Brien

FROM: Bob O'Hara *BOH*

SUBJECT: LPC #1438050006 -- Peoria County  
Mapleton/Sherex Chemical Company, Inc.  
Superfund/Technical Reports

The Sherex Chemical Company facility manufactures fabric softeners on a 389 acre site in Peoria County, southeast of Mapleton and north of the Illinois River. During a ten (10) year period, from the early 1960's to the early 1970's, liquid waste consisting of nitric acid, cadmium and copper from the cleaning of a high pressure alcohol process reactor was disposed on-site into a shallow trench. Estimated volume of the liquid waste is 25,000 to 30,000 gallons.

In June of 1981, Sherex and Ashland Chemical, one (1) of two (2) previous owners, submitted a CERCLA 103(c) notification for the site. A Preliminary Assessment was completed in September of 1981 and a Site Inspection was completed in February of 1984. In March of 1984, the site was scored under the HRS model and received a score of 15.9. The site was placed on the SRAPL by the Agency in July of 1985. A negotiated remedial investigation was performed by Envirodyne Engineers in late 1987 under a mixed funding agreement in which the Agency, Sherex, and Ashland participated. A Final Remedial Investigation Report was completed in May of 1988 and subsequent quarterly groundwater monitoring of Agency installed R-1 wells was completed in September of 1989.

Results of the remedial investigation indicate that significant levels of cadmium (up to 435 ppm) and copper (up to 22,900 ppm) exist in the area of the waste disposal trench. Two (2) soil samples exhibited characteristics for EP Toxicity for cadmium at 2.7 ppm (from the waste trench) and 1.39 ppm (from borehole B-9, located south of the waste trench). Both samples were collected at the till-shale interface at approximately 21 feet below grade. While copper is not normally analyzed for EP Toxicity, soil samples from the waste pit were accordingly analyzed and demonstrated EP Toxicity concentrations of up to 24,200 ug/L. Groundwater monitor well sample analyses demonstrated a maximum cadmium concentration of 12 ug/L and a maximum copper concentration of 18 ug/L. Cadmium was only detected in one (1) well, G104, at levels of 12 ug/L and 7 ug/L (detection limit = 3 ug/L) during the RI and was not detected during the quarterly groundwater sampling. Copper was detected in one (1) well, G102, at levels of 18 ug/L and 10 ug/L during the RI and at 37.3 ug/L during the quarterly groundwater sampling. Analyses of on-site production wells located downgradient of the waste disposal trench and between Pond Lily Lake and the Illinois River have not demonstrated detectable levels of cadmium or copper.

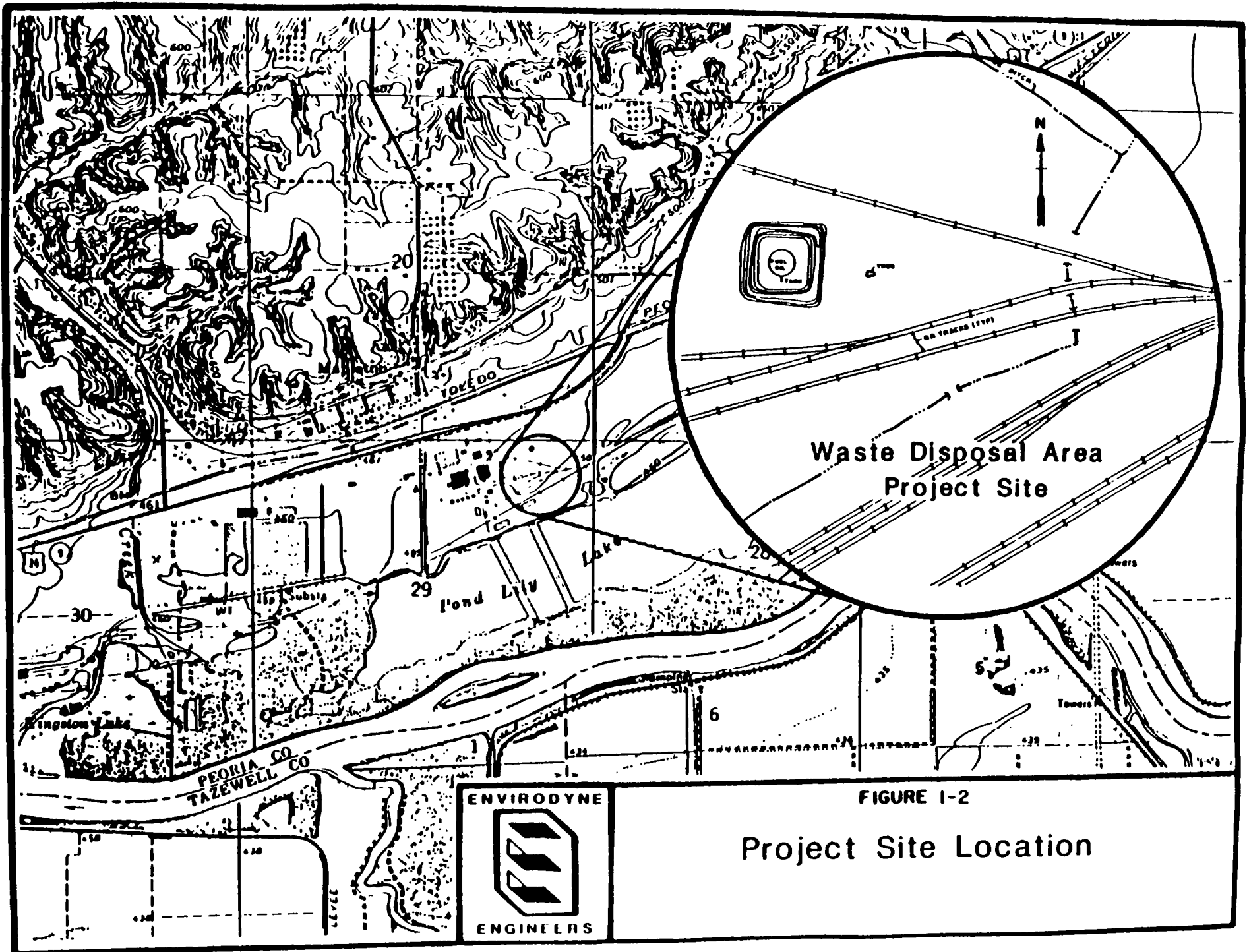
Localized geology at the site consists of varying sizes of sands and gravels in layers of varied thickness with occasional thin silt and clay seams distributed throughout overlying bedrock of the Carbondale Formation. The Carbondale Formation consists of layered silty shale, limestone, and calcareous siltstone. In the vicinity of the waste disposal trench, shale was encountered at approximately 18 to 27 feet below ground surface or at about 430 feet above MSL. Bedrock within one-half (1/2) mile of the Illinois River is encountered at about 375 feet above MSL. Groundwater flow in the sand and gravel aquifer flows in an east-southeast direction towards the Illinois River. Groundwater tables are present from six (6) to twelve (12) feet below ground surface.

The four (4) Sherex commercial supply wells on-site are completed in the sand and gravel aquifer but do not supply drinking water to the plant. The only public water supply well located within 2000 feet of the waste disposal area is the Mapleton PWS-1 well. This well is finished in the sandstone at a depth of 1641 feet from ground surface. An early map provided to the Agency indicated a Mapleton PWS-2 well located on the Sherex property near the four (4) Sherex commercial supply wells, but a telephone conversation with Mr. Bruce Oedewaldt, Water Superintendent of Mapleton, confirmed that the PWS-2 location was only a test bore location and a well was never installed.

Sherex Chemical has requested that the Agency consider a no action alternative before proceeding with a feasibility study. Preliminary estimates by Charles Anderson of Sherex for a RCRA closure type cap on the waste disposal area are about \$1 million.

REO:tk:4/41/23

cc: Division File



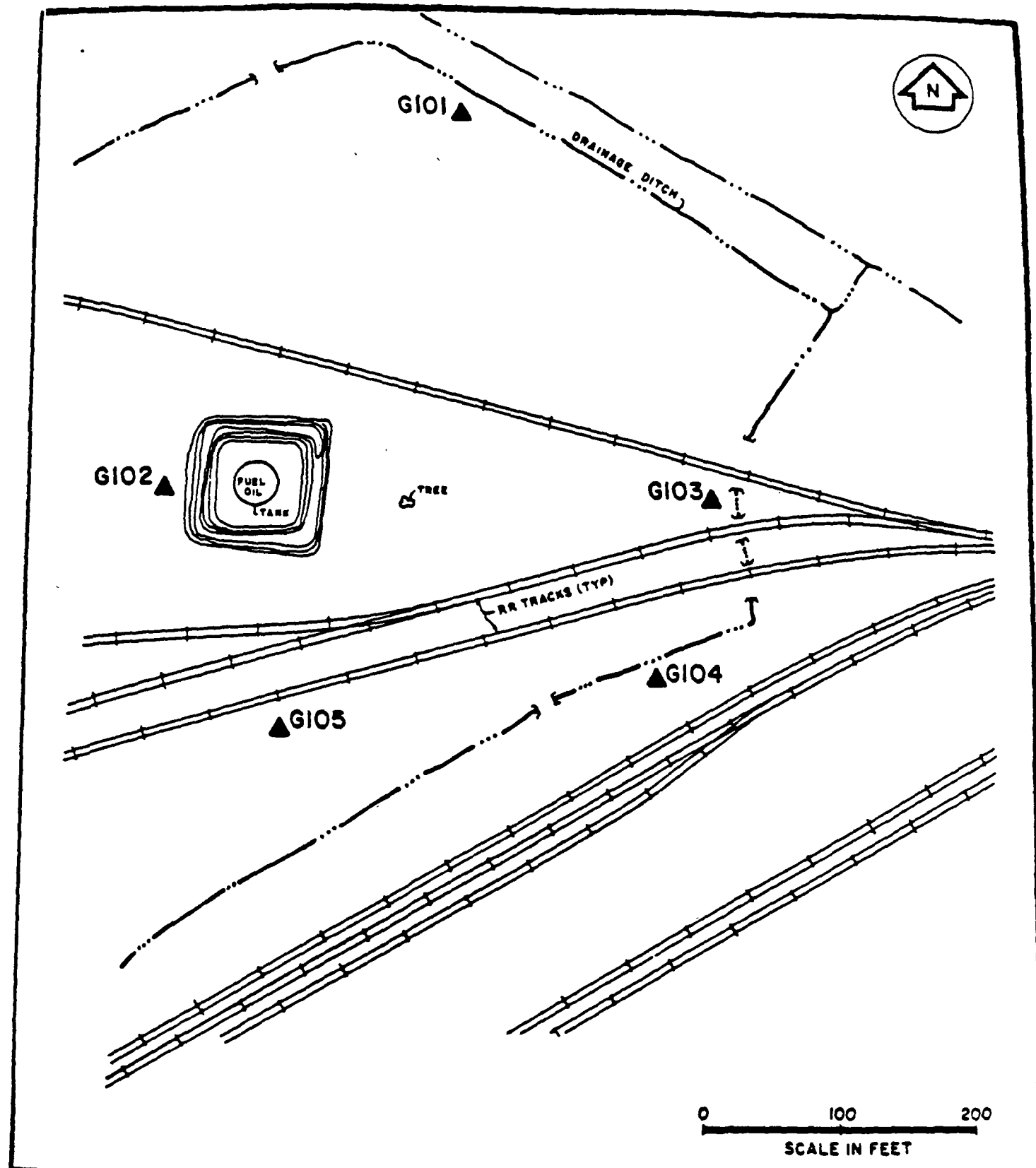


FIGURE 2-3

## MONITOR WELL LOCATIONS

4-5

